Project WISE (Wiki Integration in Science Education)
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WHAT IS PROJECT WISE?
Project WISE (Wiki Integration in Science Education) is an action research project being conducted with rural 6th grade students in central North Carolina. Project WISE involves collecting data concerning the effectiveness of a dynamic science initiative aimed at using the collaborative, interactive nature of many Web 2.0 tools and the Internet to help students master science content at a profound level. The project will involve 6th graders who are currently participating in an inquiry saturated science environment. Teachers involved in the project have been fully trained in the effective use of inquiry-based, hands-on kits through the county supported TASC (Teachers and Scientists Collaborating) program. Project WISE proposes to extend the critical inquiry learning of the laboratory to include the crucial component of sharing that learning with others. Students involved in the project will create group Wikis (collaborative websites that are easily built and edited) through which they will construct science content stemming from their understanding of the inquiry activities they have completed in the classroom. Students will utilize digital cameras, video creation software, and other multimedia tools to enhance their content.

RESEARCH QUESTIONS

- How do students who are required to maintain a collaborative wiki of their science content knowledge compare to students who participate in a traditional science class on specific performance criteria?
- Do students required to maintain a collaborative science wiki show differences in mastery of content across six of the sixth grade NC Standard Course of Study strands?

CREATING SCIENCE CONTENT

INDEPENDENT AND DEPENDENT VARIABLES

Independent Variable:
Use of collaborative student Wiki content creation in science instruction

Dependent Variable:
Student level of mastery in science curriculum

SHARING DATA WITH THE WORLD

EXPANDING SCIENTIFIC INQUIRY

THE SAMPLE

100 science students from two 2-teacher teams in a rural 6th-8th grade middle school will take part in this valuable study. The students are heterogeneously grouped by the administrative team. Attention is given to randomly placing equal amounts of males and females. In addition, each team is made up of approximately 60% Caucasian, 20% African American, and 20% Latino children; representative of the school’s population dynamics.

FOUNDATIONAL SUPPORT

93% of teens use Internet

39% share their own artwork, photos, stories, or videos

33% create webpages or blogs for others

27% maintain their own personal webpage

28% have created their own online journal or blog

Data from Pew Internet and American Life Project, Dec. 2007

UNITS INCLUDED IN PROJECT WISE
- Scientific Method and Processes
- Population Dynamics
- Energy Transfer and Transformation
- Cycling of Matter
- Earth’s Lithosphere
- Solar System

SHARING SCIENCE FUN GLOBALLY

ASSESSMENT PIECES

The following data collection tools will be utilized and triangulated for Project WISE:

- Pre and Post Tests for each Unit taught
  - Quantitative
- 20-Question Likert Surveys
  - Qualitative/Quantitative
- Collaborative Coding of Wiki Content
  - Qualitative

CONTACT INFORMATION

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